



# IMPROVED FLUID PASSAGES FOR POWER GENERATION EQUIPMENT

## Abstract of Disclosure

A cooling apparatus for fuel cell components is provided wherein the cooling apparatus comprises a base plate having a first end and a second end and a first side plate coupled to the first end and a second side plate coupled to the second end. A plurality of bottom ribs are coupled to the base plate and a plurality of upper ribs are coupled to the bottom ribs. In addition, a top channel and a bottom channel are formed between each of the plurality of upper ribs and each of the plurality of bottom ribs, respectively, wherein the top channel and the bottom channel are disposed to allow a flow of a fluid therethrough and disposed to allow a portion of the fluid to alternate between the top channel and the bottom channel at a flow redirection area so as to enhance the heat transfer rate between the fluid and the fuel cell components.